

CLAIMS

[Claim 1]

An air conditioner comprising:

an indoor unit having at least one inlet and one outlet;

a cross-flow fan connected to a fan motor;

a front heat exchanger; and

a back heat exchanger,

wherein an installation angle α of the front heat exchanger positioned above the rotational center of the cross-flow fan relative to the horizon is $65^\circ \leq \alpha \leq 90^\circ$, a point of the back heat exchanger closest to the front heat exchanger is located adjacent to the front heat exchanger from the rotational center of the cross-flow fan, and an outlet angle β_2 of a blade of the cross-flow fan is $22^\circ \leq \beta_2 \leq 28^\circ$.

[Claim 2]

An air conditioner comprising:

an indoor unit having at least one inlet and one outlet;

a cross-flow fan connected to a fan motor;

a front heat exchanger; and

a back heat exchanger,

wherein an installation angle α of the front heat exchanger positioned above the rotational center of the cross-flow fan relative to the horizon is $65^\circ \leq \alpha \leq 90^\circ$, a point of the back heat exchanger closest to the front heat exchanger is located adjacent to the front heat exchanger from the rotational center of the cross-flow fan, and an inlet angle β_1 of a blade of the cross-flow fan is $91^\circ \leq \beta_1 \leq 100^\circ$.

[Claim 3]

An air conditioner comprising:

an indoor unit having at least one inlet and one outlet;

a cross-flow fan connected to a fan motor;

a front heat exchanger; and

a back heat exchanger,

wherein an installation angle α of the front heat exchanger positioned above the rotational center of the cross-flow fan relative to the horizon is $65^\circ \leq \alpha \leq 90^\circ$, a point of the back heat exchanger closest to the front heat exchanger is located adjacent to the front heat exchanger from the rotational center of the cross-flow fan, and when the external diameter of a blade of the cross-flow fan is D and a maximum warp is hc, hc/D is $0.025 \leq hc/D \leq 0.028$.

[Claim 4]

The air conditioner according to any one of Claims 1 to 3, further comprising at least one kind or more of draft resistors arranged on the upwind side of the front heat exchanger and on the upwind side of the back heat exchanger,

wherein a draft resistance of the draft resistor on the side of the front heat exchanger is identical to or smaller than a draft resistance of the draft resistor on the side of the back heat exchanger.

[Claim 5]

The air conditioner according to any one of Claims 1 to 3, wherein the ratio is $L/D \geq 0.4$, where the external diameter of the blade of the cross-flow fan is D and the maximum distance between a suction panel and the front heat exchanger is L.